

the lake. If it were found that there is another cause, the phosphorus load and waste load allocations would no longer apply.

7. Comment: *Without an update of the Clean Lakes Study ...it is difficult to determine whether Clear Lake, a naturally eutrophic lake, is water quality limited and whether a Total Maximum Daily Load is required or that phosphorus limitation will increase the lake clarity.*

Response: Staff agrees that an update of the Clean Lakes study would be useful. Both the original Basin Plan Amendment and the alternative Basin Plan Amendment call for further study to gain a better understanding of the factors that affect algae growth in Clear Lake. In the interim, staff believes that a focus on controlling phosphorus makes sense based on the reasons discussed in #5 and #6 above.

8. Comment: *The Target Report (Tetra Tech Report) also appears to draw erroneous conclusions on when the lake was in "compliance". The Target Report lists the "compliance period" to be between 1985 and 1989 and the non-compliance period to be 1990 and 1992. In reality, there have been significantly fewer nuisance, blue-green algal blooms since 1991. DWR secchi depth data for the Upper Arm of Clear Lake confirm this, with secchi depths averaging 0.9 meters during 1985 through 1990, and averaging 1.7 meters during 1991 through 1992, the "non-compliant" years ... Since 1991, the Upper Arm secchi depth has averaged 2.1 meters. How is a lake with double the clarity of the "compliant" lake "non-compliant"?*

Response: The ~~non~~-compliant years were 1985-1989 and the non-compliant years were 1990-1991. Severe algal blooms were documented in 1990 and 1991 (Richerson et. al., 1994), even though Secchi depth measurements during 1991 were higher than previous years. Water clarity cannot be expected to track perfectly with average algae density or modeled chlorophyll values, especially over a short period and with clarity measurements occurring only at monthly intervals. Nuisance algae blooms may only last several days and may occur in patches located away from the established sampling sites. It would be easy to miss a significant bloom if sampling was not conducted at the exact time and location where the bloom was occurring. The simulated chlorophyll-a values during the "compliant" and "non-compliant" years were based on a calibrated water quality model that considered multiple factors such as nutrient cycling, dissolved oxygen levels, mixing and residence time. These values are our best estimate of daily conditions in the lake.

9. Comment: *The Target Report also recommends that chlorophyll-a be utilized in determining whether Clear Lake is in compliance. There is very little historical data on chlorophyll-a levels in Clear Lake, therefore, the models used in preparation of the Target Report are unverifiable and we are unable to determine whether the recommended target is appropriate.*